AUTODOC CLUB

How to change front ball joint on **Mercedes ML W163** – replacement guide

VIDEO TUTORIAL

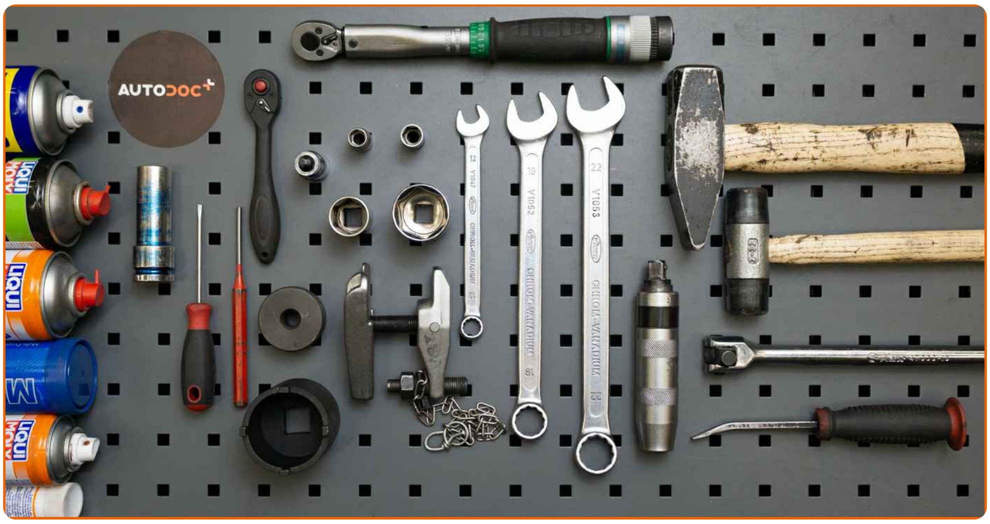


Important!

This replacement procedure can be used for:
MERCEDES-BENZ M-Class (W163) ML 320 (163.154), MERCEDES-BENZ M-Class (W163) ML 230 (163.136), MERCEDES-BENZ M-Class (W163) ML 430 (163.172), MERCEDES-BENZ M-Class (W163) ML 55 AMG (163.174), MERCEDES-BENZ M-Class (W163) ML 400 CDI (163.128), MERCEDES-BENZ M-Class (W163) ML 500 (163.175), MERCEDES-BENZ M-Class (W163) ML 350 (163.157), MERCEDES-BENZ M-Class (W163) ML 350

The steps may slightly vary depending on the car design.

REPLACEMENT: BALL JOINT – MERCEDES ML W163. LIST OF THE TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Sealant
- All-purpose cleaning spray
- Brake cleaner
- Multipurpose grease
- Copper grease
- Torque wrench
- Combination spanner #12
- Combination spanner #19
- Combination spanner #22
- Drive socket # 10
- Drive socket # 12
- Drive socket # 22
- Drive socket # 36
- HEX bit No.H5
- Wheel impact socket #17
- Ratchet wrench
- Pin wrench socket
- Ball joint puller
- Flat Screwdriver
- Pin punch
- Hammer
- Tap wrench
- Rubber mallet
- Impact screwdriver
- Bush and bearing driver set
- Hydraulic transmission jack
- Crow bar
- Wheel chock

BUY TOOLS

Replacement: ball joint – Mercedes ML W163. Tip from AUTODOC experts:

- The replacement procedure is identical for the left and right ball joints.
- Please note: all work on the car – Mercedes ML W163 – should be done with the engine switched off.

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

1 Secure the wheels with chocks.

2 Loosen the wheel mounting bolts. Use wheel impact socket #17.



3 Raise the front of the car and secure on supports.



4 Unscrew the wheel bolts.



AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while unscrewing the fastening bolts. Mercedes ML W163

5 Remove the wheel.



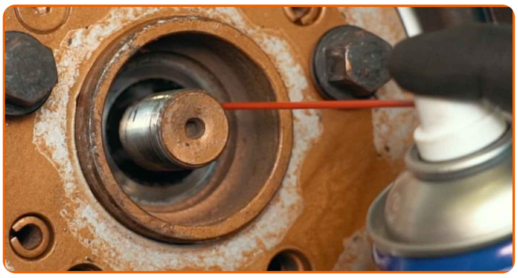
6 Loosen the fastener of the driveshaft. Use a drive socket #36. Use a tap wrench.



7 Remove the fastening nut.

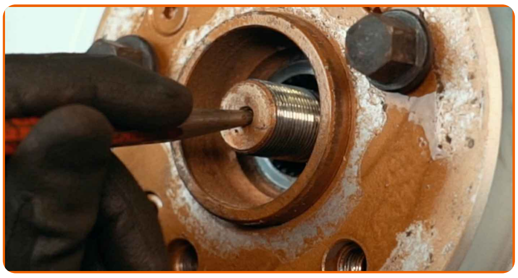


8 Treat the splines of the driveshaft CV joint. Use WD-40 spray.



9

Detach the driveshaft from the steering knuckle. Use a pin punch. Use a hammer.

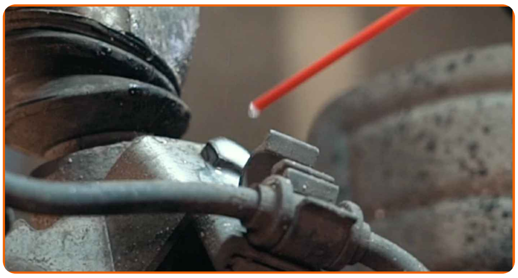


Replacement: ball joint – Mercedes ML W163. AUTODOC experts recommend:

- Make sure that the drive shaft is not unloaded (when the car is jacked).

10

Clean the ABS wiring harness bracket. Use a wire brush. Use WD-40 spray.



11

Detach the ABS wiring harness bracket. Use a drive socket #10. Use a ratchet wrench.



12

Spread the brake pads. Use a crowbar.



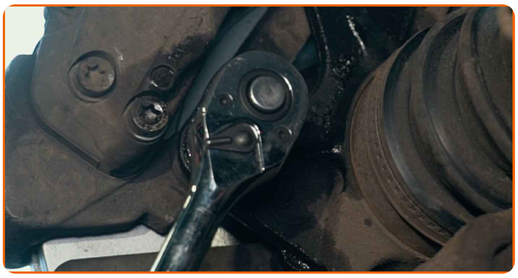
13

Clean the brake caliper bracket fasteners. Use a wire brush. Use WD-40 spray.



14

Unscrew the caliper bracket fastening. Use a drive socket #22. Use a ratchet wrench. Use a tap wrench.



15

Remove the brake caliper together with its bracket.



Replacement: ball joint – Mercedes ML W163. Professionals recommend:

- Tie the caliper to the suspension or to the body with a wire without disconnecting from the brake hose to prevent depressurization of the brake system.
- Make sure that the brake caliper is not hanging on the brake hose.
- Don't press the brake pedal after the brake caliper has been removed. As a result, the piston can fall out from the brake cylinder, and brake fluid leakage and depressurization of the system may occur.
- Check the brake caliper bracket, brake caliper guide pins and boots. Clean them. Replace, if necessary.

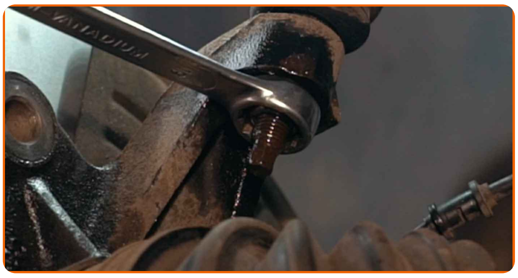
16 Disconnect the ABS sensor wiring.



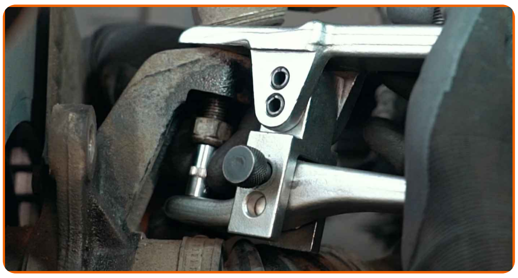
17 Clean the fastener connecting the ball joint to the steering knuckle. Use a wire brush. Use WD-40 spray.



18 Unscrew the fastener that connects the ball joint of the upper arm to the steering knuckle. Use a combination spanner #19.



19 Detach the upper arm ball joint from the steering knuckle. Use a ball joint puller.



20 Clean the brake disc fastener. Use a wire brush. Use WD-40 spray.



21 Unscrew the brake disc fastening. Use HEX No.H5. Use an impact screwdriver.



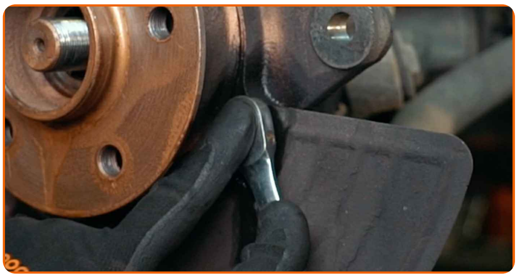
22 Remove the brake disc. Use a rubber mallet.



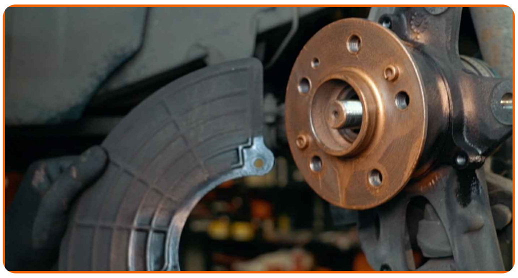
23 Clean the fasteners of the brake disc cover. Use a wire brush. Use WD-40 spray.



24 Unscrew the fasteners of the brake disc cover. Use a combination spanner #12.



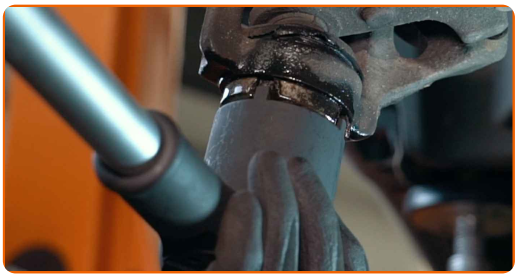
25 Remove the brake disc cover.



26 Clean the fastener connecting the ball joint to the steering knuckle. Use a wire brush. Use WD-40 spray.



27 Unscrew the ball joint fastening to the steering knuckle. Use the pin wrench socket. Use a tap wrench.



28 Clean the fastener connecting the tie rod end to the steering knuckle. Use a wire brush. Use WD-40 spray.



29 Unscrew the end fastening nut to the steering knuckle. Use a drive socket #22. Use a ratchet wrench.



30

Disconnect the tie rod end from the steering knuckle. Use a ball joint puller.



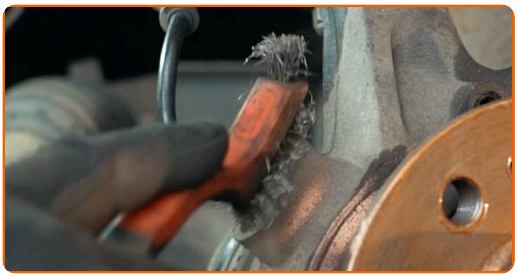
31

Prop up the steering knuckle. Use a hydraulic transmission jack.



32

Clean the ABS sensor fastener. Use a wire brush. Use WD-40 spray.

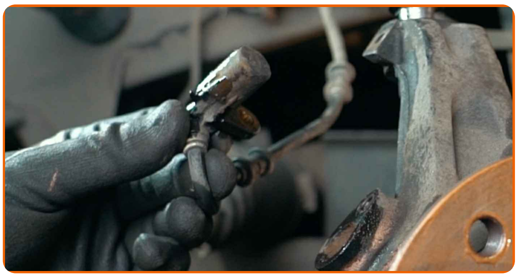


33

Unscrew the fastener connecting the ABS sensor to the steering knuckle. Use a drive socket #10. Use a ratchet wrench.



34 Disconnect the ABS sensor.



35 Clean the fastener connecting the ball joint to the steering knuckle. Use a wire brush. Use WD-40 spray.



36 Unscrew the fastener that connects the ball joint of the lower arm to the steering knuckle. Use a combination spanner #22.



37 Remove the support from under the steering knuckle.



AUTODOC recommends:

- Replacement: ball joint – Mercedes ML W163. Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

38 Support the arm. Use a hydraulic transmission jack.

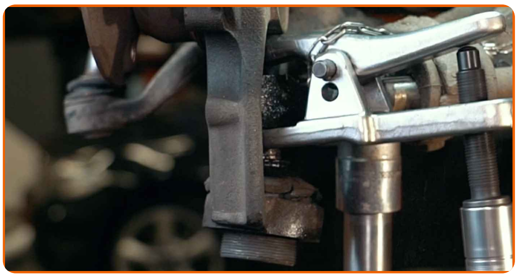


39 Detach the upper control arm from the steering knuckle.



40 Detach the lower arm ball joint from the steering knuckle. Use a ball joint puller.

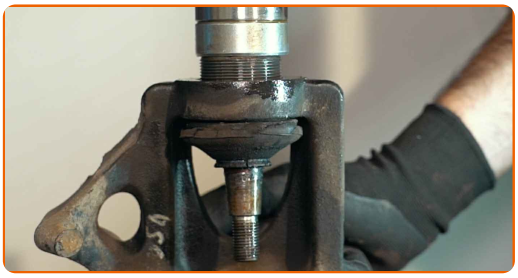
41 Remove the steering knuckle together with the ball joint. Use a ball joint puller.



42 Clean the ball joint mounting seat. Use a wire brush. Use WD-40 spray.



43 Remove the ball joint from the steering knuckle. Use a bush and bearing driver set.



44 Clean the ball joint mounting seat. Use a wire brush. Use WD-40 spray.



45 Install the ball joint on the steering knuckle. Use a bush and bearing driver set.



46 Screw the fastener connecting the ball joint to the steering knuckle. Use the pin wrench socket. Use a tap wrench.



47

Unscrew the ball joint fastening to the steering knuckle. Use the pin wrench socket. Use a tap wrench.



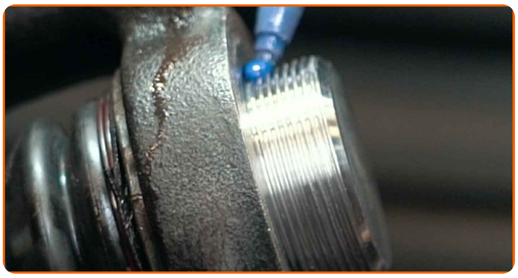
48

Clean the ball joint fasteners. Use all-purpose cleaning spray.



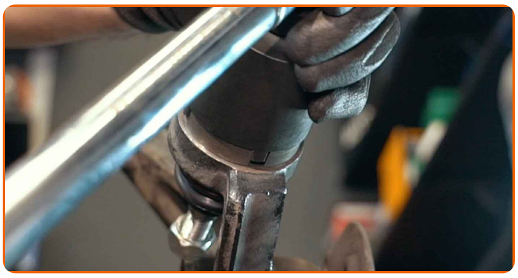
49

Treat the fasteners of the ball joint. Use a sealant.



50

Tighten the fastener connecting the ball joint to the steering knuckle. Use the pin wrench socket. Use a torque wrench. Observe the recommended tightening torque.



51 Clean the splines of the drive shaft CV joint. Use a wire brush. Use WD-40 spray.



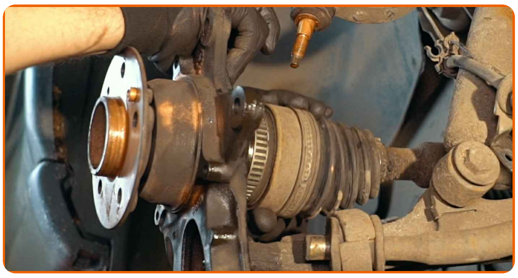
52 Clean the steering knuckle mounting seats. Use a wire brush. Use WD-40 spray.



53 Install the steering knuckle together with the ball joint.



54 Install the drive shaft.



55 Attach the upper control arm to the steering knuckle.



56 Connect the tie rod end to the steering knuckle.

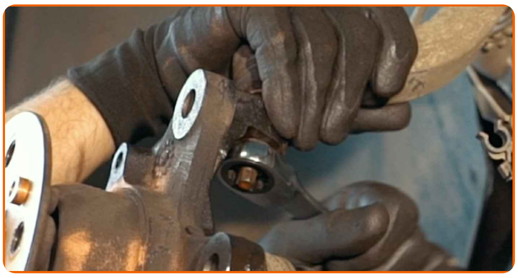


57 Screw on the fastening nut that connects the tie rod end to the steering knuckle. Use a drive socket #22. Use a ratchet wrench.



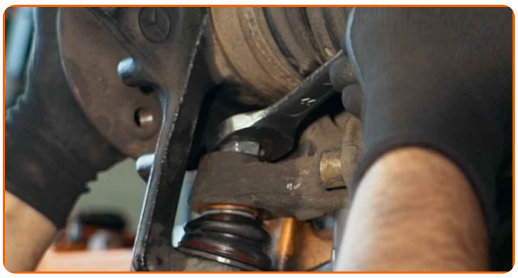
58 Connect the upper arm ball joint to the steering knuckle.

59 Screw in the fastener that connects the upper arm ball joint to the steering knuckle. Use a combination spanner #19.



60 Connect the lower arm ball joint to the steering knuckle.

61 Screw in the fastener that connects the lower arm ball joint to the steering knuckle. Use a combination spanner #22.



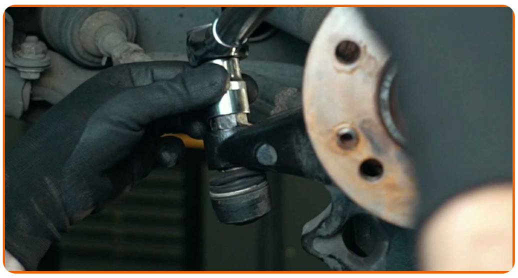
62 Tighten the fastener that connects the lower arm ball joint to the steering knuckle. Use a combination spanner #22. Use a torque wrench. Tighten it to 85 Nm torque.



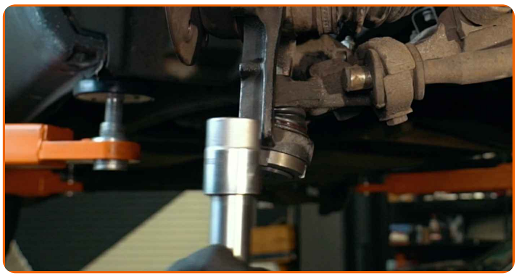
63 Tighten the fastener that connects the upper arm ball joint to the steering knuckle. Use a combination spanner #19. Use a torque wrench. Tighten it to 50 Nm torque.



64 Tighten the fastening nut connecting the tie rod end to the steering knuckle. Use a drive socket #22. Use a torque wrench. Tighten it to 55 Nm torque.



65 Remove the support from under the arm.



AUTODOC recommends:

- Mercedes ML W163 – Do not lower the transmission jack sharply to avoid damaging components and mechanisms of the car.

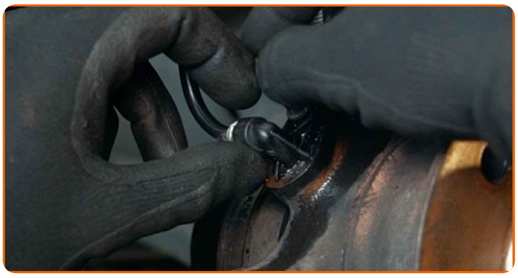
66 Clean the ABS sensor mounting seat. Use a wire brush. Use WD-40 spray.



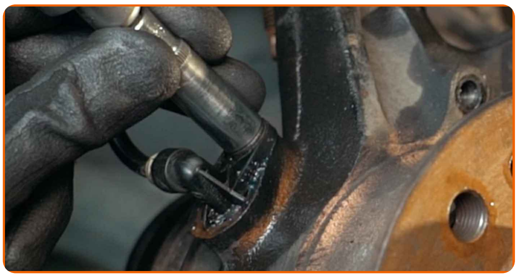
67 Treat the ABS sensor fastener. Use a multipurpose grease. Use a flat screwdriver.



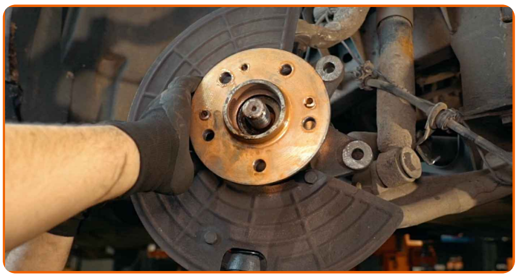
68 Connect the ABS sensor.



69 Tighten the fastener that connects the ABS sensor to the steering knuckle. Use a drive socket #10. Use a torque wrench. Tighten it to 7 Nm torque.



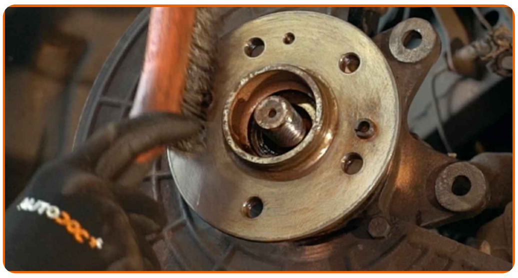
70 Install the brake disc cover.



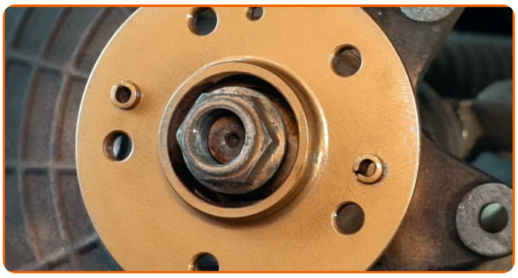
71 Screw in the fasteners of the brake disc cover. Use a drive socket #12. Use a torque wrench. Tighten it to 9 Nm torque.



72 Clean the hub. Use a wire brush. Treat the contacting surface. Use copper grease.



73 Install the fastening nut.



74 Screw in the nut of the CV axle. Use a drive socket #36.



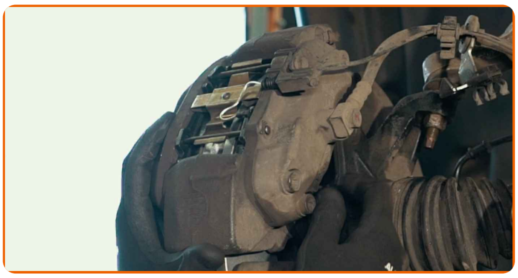
75 Install the brake disc.



76 Tighten the brake disc fastening. Use HEX No.H5. Use a torque wrench. Tighten it to 8 Nm torque.



77 Install the brake caliper together with its bracket.



78

Tighten the brake caliper bracket. Use a drive socket #22. Use a torque wrench. Tighten it to 180 Nm torque.



79

Fasten the ABS wiring harness bracket. Use a drive socket #10. Use a torque wrench. Tighten it to 13 Nm torque.



80

Connect the ABS sensor wiring.



81

Treat the steering knuckle fasteners. Use copper grease.



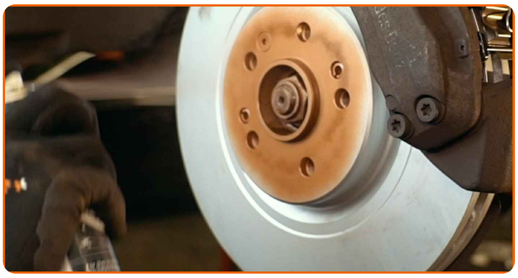
82 Tighten the drive shaft nut. Use a drive socket #36. Use a torque wrench. Observe the recommended tightening torque.



83 Clean the wheel rim mounting seat. Use a wire brush.



84 Treat the surface where the brake disc contacts the wheel rim. Use copper grease.



85 Clean the brake disk surface. Use a brake cleaner.



AUTODOC recommends:

- Replacement: ball joint – Mercedes ML W163. After applying the spray, wait a few minutes.

86 Install the wheel.



AUTODOC recommends:

- Important! Hold the wheel while screwing in the fastening bolts. Mercedes ML W163

87 Screw in the wheel bolts. Use wheel impact socket #17.



88 Lower the car and working in a cross order, tighten the wheel bolts. Use wheel impact socket #17. Use a torque wrench. Tighten it to 150 Nm torque.



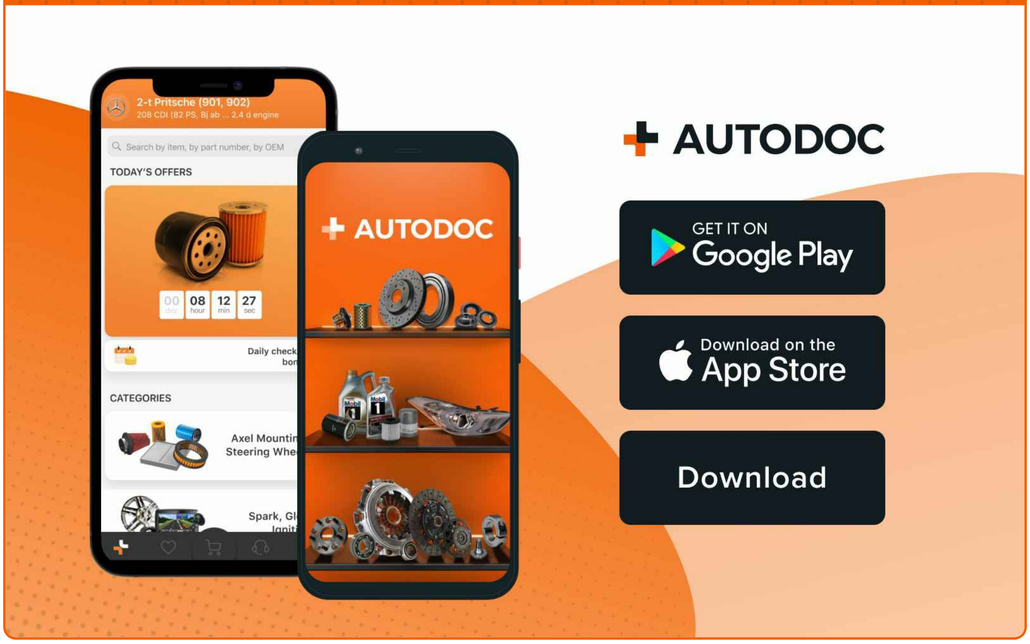
89 Remove the jacks and chocks.

WELL DONE!

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